REMARKS

I. Claim Rejection-35 USC § 112

Claim 8 was rejected under 35 USC 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art relevant art that the invention(s) at the time the application was filed, had possession of the claimed invention. The Examiner states the Applicants amendment to claim 8 which recites 1 mg to about 10 grams to obviate the 112, second paragraph rejection has no support in the specification. Applicants have amended claim 8 to recite 100 mg to about 10 grams, which is supported in the specification, thus alleviating this rejection.

Claims 1-8 were rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter, which Applicants regards as the invention. The Examiner states the phrase, "consisting essentially of" is vague and indefinite since it is unclear from the specification as to what "consisting essentially of" would exclude. Applicants respectfully traverse this rejection. As stated by the MPEP, the phrase "consisting essentially of" limits the scope of a claim to the specified materials or steps "and those that do not materially affect the basic and novel characteristic(s)" of the claimed invention. Such characteristics are well known to those skilled in the relevant art and if not disclosed in the specification should not render the claims indefinite. This phrase is art recognized language and its meaning cited in the MPEP (2111.03). There is no indefiniteness in this use of a well accepted, judicially construed transition phrase such as "consisting essentially of". Thus, Applicants respectfully request Examiner to withdraw his rejection.

III. Claim Rejections – 35 U.S.C. § 102

Claims 1, 2, 7, and 8 were rejected under 35 U.S.C. § 102(b) as being anticipated by Meisner for the reasons of record and the following. The Examiner states on page 4 of the instant specification, that Applicants also contemplate including calcium, antioxidants (of which ascorbic acid is commonly used) and the like in with their composition of S-methylcysteine as well. The Examiner states the Applicants argument is moot. Applicants respectfully traverse this rejection. In Meisner, methionine and cysteine can substitute for S-methylcysteine and are even preferred by Meisner. Meisner (See col. 3, line 64; col. 4, line 52) also prefers the glucosamine, other amino acids, and other non-sulfur-containing amino acids. Conversely, in the present application, the sulfur side chains of the amino acid is essential, as is the S-methyl or S-ethyl group. Therefore, adding a composition with non-sulfur-containing-amino-acids, as preferred by Meisner, would materially affect the basic and novel characteristics of the claimed invention, i.e., S-methylcysteine as an antagonist to S-nitrosothiols. Additionally, Meisner administers tyrosine, which if taken intravenously, particularly at high doses has been shown to produce a hypotensive response in a rat model. (See Ekholm, S. & Karppanen, H. (1987). Cardiovascular effects of L-tyrosine in normotensive and hypertensive rats. Eur J. Pharmacol, 143(1), 27-34). Thus, the administration of tyrosine at high doses would materially affect the novel characteristics of an embodiment of the present invention, which is to counteract the effects of hypotension (see page 2, line 17-19 of specification).

For a claim to be inherent it "is not sufficient that a person following the disclosure sometimes obtain the result set forth in the [claim]; it must invariably, i.e., always happens. Standard Oil Co. (Indiana) v. Montedison, S.p.A., 664 F.2d 356, 372, 212 USPQ 324, 341 (3d Cir. 1981). Likewise, "[i]n relying upon the theory of inherency, the examiner must provide a

basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art." Ex parte Levy 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Int. 1990). The Examiners' position has been that Meisner teaches that a composition containing among other ingredients, an anti-inflammatory substance, specifically S-methylcysteine, is administered to the patient. Even though the composition of Meisner is administered to the patient for a different reason, it would have been inherent to the process of Meisner that nitric oxide synthesis is inhibited since the steps of the processes (Meisner and the instant application) are the same. All the process requires is that the S-methylcysteine be administered to the patient. Applicants respectfully traverse this rejection. For inherency to attach, Meisner's administration of S-methylcysteine must be shown to always inhibit the effects of nitric oxide. Although Meisner contemplates using as an anti-inflammatory, an amino acid such as S-methylcysteine, her final composition is not characterized as inhibiting nitric oxide effects. Moreover, her method for using her composition is incapable of inhibiting nitric oxide. Meisner's patent is for topical or oral applications. The administration of S-methylcysteine, which is only included as an alternative amino acid and not a preferred one, will not likely produce any clinical effects because of S-methylcysteine is a polar compound. It is well known in the art that polar compounds are absorbed poorly through the skin and whatever absorption that might occur would be so slow that significant serum levels would not be achieved. Likewise, the oral ingestion of S-methylcysteine in humans has shown no hemodynamic effects, therefore, no affect on blood pressure. Therefore, since Meisner contemplates topical application and oral ingestion, based on the foregoing, it is unlikely that the S-methylcysteine even causes any clinical effect let alone nitric oxide inhibition. Moreover, the Examiner has not provided a basis in fact and/or technical reasoning to reasonably support the

determination that the Meisner's administration of S-methylcysteine inherently or necessarily would inhibit nitric oxide. Meisner does not provide any prophetic or working examples revealing the process conditions employed to produce such an effect. Therefore, there is no cogent technical reasoning and/or conclusive evidence to support the conclusion that the method of Meisner would inherently (necessarily) inhibit nitric oxide.

Next, the Examiner states that the Meisner teaches administration of the composition in a variety of ways including oral and topical. Since these include parenteral, the Applicant's argument is moot. Applicants have amended the claims to cover intravenous administration, thus alleviating this rejection.

IV. Claim Rejections-35 USC § 103

Claims 3-6 were rejected under 35 USC 103(a) as being unpatentable over Meisner for the reasons of record and for the reasons which follow. The Examiner states Applicants provided essentially the same arguments as in the above 35 USC § 102 rejection. Applicants respectfully traverse this rejection. Where the reference does not appreciate the existence of the problem solved by the invention, the applicant's recognition of the problem is, in itself, strong evidence of the nonobviousness of the invention. In re Nomiya, 184 USPQ 607, 612-13 (CCPA 1975). Meisner teaches a composition containing among other ingredients, an anti-inflammatory substance, specifically S-methylcysteine, is administered to a patient. However, Meisner's reference is directed to a method and composition for accelerating wound healing in animals and humans. Treatment in accordance with Meisner's invention reduces tissue degenerative effects of the inflammation associated with the wound healing process. Conversely, Applicants embodiments focuses on a therapeutic method involving the administration of antagonists of S-nitrosothiols, to counteract hypotension and shock. More particularly, a treatment that

specifically counteracts the hypotension caused by the overproduction of nitric oxide and nitrosothiols as present in conditions such as septic shock. Therefore, Meisner fails to teach the source of the problem addressed by the present invention. The recognition of the source of this problem is what is unobvious and Meisner fails to contemplate or disclose such a problem. Again, it should be appreciated that S-methylcysteine and the other S-alkylthiols are not inhibitors of nitric oxide synthesis. S-methylcysteine acts as an antagonist to S-nitrosocysteine and other S-nitrosothiols and since nitric oxide produces some, but not all, of its effects by the formation of S-nitrosothiols, S-methylcysteine is also an antagonist to some of the effects of nitric oxide. Therefore, Meisner's use of S-methylcysteine is not pertinent to the problem being solved. Therefore, claims 3-6 are patentably distinct from Meisner. Applicants respectfully request Examiner to withdraw this rejection.

V. Conclusion

For the above-stated reasons, it is believed the Application is in a prima facia condition for allowance. Allowance is respectfully requested.

No fees or extensions of time are believed to be due in connection with this amendment; however, consider this a request for any extension inadvertently omitted, and charge any additional fees to Deposit Account No. 26-0084.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**Version with markings to show changes made.**"

Respectfully submitted,

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AMENDMENT — VERSION WITH MARKINGS

TO SHOW CHANGES MADE

In the Claims

Please amend the following claims:

7. (Twice Amended)

The method of claim 1 wherein the administration is [parenterally] intravenously.

8. (Twice Amended)

The method of claim 1 wherein the dose ranges from about [1] 100 mg to about 10 g.